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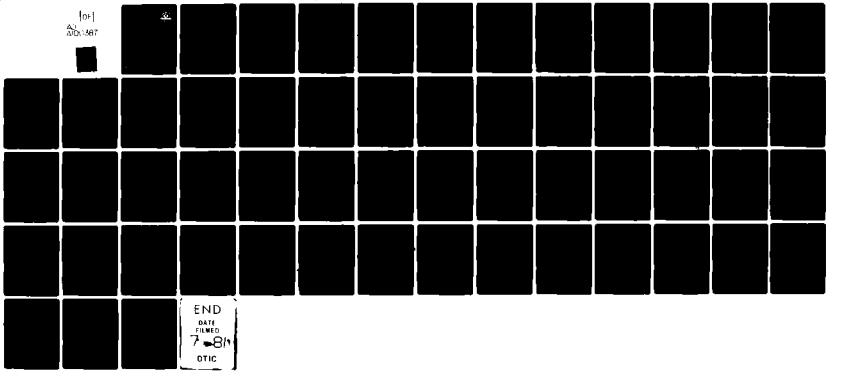

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AN INTERACTIONIST PERSPECTIVE ON ORGANIZATIONAL EFFECTIVENESS

Benjamin Schneider

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This article presents a developmental view of organizations grounded in psychology, especially contemporary views of personality theory (interactional psychology), industrial psychology (personnel selection, employee turnover) and the psychology of careers (career and organizational choice). The developmental framework integrates these views and suggests a number of hypotheses: (a) the typical organization is defined by the nature of the people who are attracted to it, selected by it, and who remain in it;

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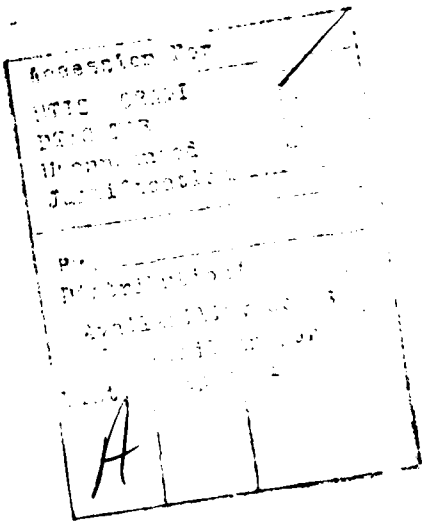
(b) the attraction-selection-attrition cycle can, over time, lead to the occupation of narrow environmental niches and organizational decay; (c) organizations must protect themselves against decay by attracting, selecting and retaining newcomers who do not subscribe to organizational norms, and who push the organization to change; (d) variables typically studied under the effectiveness rubric (e.g., goals, technology, structure) are usefully viewed as outcomes of the people in organizations and their choices. Theoretical, methodological and practical implications of the framework are presented.

An Interactionist Perspective on Organizational Effectiveness

Benjamin Schneider[1]



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THE ATTRACTION-SELECTION-ATTRITION FRAMEWORK

This article builds on some ideas from interactional psychology, and vocational and industrial psychology as a basis for a psychological perspective on organizational design and organizational effectiveness. The basic theses of the article are: (a) Organizations are defined by the kinds of people who are attracted to them, selected by them and who remain in them; (b) As a result of the attraction-selection-attrition cycle, organizations can become overly homogeneous resulting in a decreased capacity for adaptation and change; and (c) In the face of turbulent environments, organizations can remain viable by attracting, selecting and retaining people in differentiated roles who are externally and future-oriented.

Each of these theses emerges from a consideration of the nature of the relationship between persons and situations. This relationship is addressed from the perspective of contemporary personality theory, especially that group of theorists called interactionists.

Interactionism

Interactionism is a burgeoning subfield in the psychology of personality. It posits that behavior follows from naturally occurring transactions between persons and settings. Interactionism is a reaction to extreme forms of personalism and situationism, each of which attributes observed behavior primarily to the attributes of persons, or the attributes of situations, respectively. The classic personologist would be any one of a number of trait theorists, e.g., R. B. Cattell, or psycho-dynamicists, e.g., Freud; the classic situationist would be Skinner. Mischel, Jeffrey, and Patterson (1974, p. 231) present the differences between personologists

and situationists as follows:

> . . . Advocates of trait theory seek to discover underlying, generalized dispositions that characterize persons relatively stably over time and across many situations, and search for behaviors that may serve as "signs" of such dispositions. Behaviorally [situationally] oriented psychologists, on the other hand, focus on behavior directly, treating it as a sample from a wider repertoire rather than as a sign of generalized inner attributes. Unlike trait psychologists, behavioral psychologists see behavior as highly dependent on the situation in which it occurs and therefore do not assume broad generalization [of behavior] across diverse situations. . .

While not new in concept, the current growth of interactionism in psychology is attributable primarily to Mischel's (1968) critique of personalism and Bowers' (1973) answering critique of situationism.

Mischel's (1968) review of the failure of traits to make valid trans-situational predictions of behavior and his promotion of a conceptualization of personality based primarily on social learning theory (Mischel, 1973; 1979), served as stimulus to renewed interest in interactionism. Bowers' (1973) elegant retort to Mischel's early work suggested that Lewin's famous dictum, B = f (P, E) had a basis in empirical fact. Perhaps Bowers' (1973, p. 327) major contribution to the discussion of the causes of behavior was his explication of the cognitive (or, as he called it, bio-cognitive) view of personality, i.e., the role of perception in integrating person and setting:

> An interactionist or biocognitive view denies the primacy of either traits or situations in the determination of behavior; instead, it fully recognizes that whatever main effects do emerge will depend entirely upon the particular sample of settings and individuals under consideration. . . More specifically, interactionism argues that <u>situations are as much a function of the person as the person's behavior is a function of the situation</u>. (Italics in original)

The spirited debate between these two scholars yielded new interest and insight into both personality and the etiology of situations. The former has emerged in some writings as social construction competencies (Mischel, 1973) and the latter as the outcome of naturally occurring personal interaction (Schneider, 1980).

Perhaps most importantly, organismic (i.e., dynamic) modes of thinking about behavior have emerged from the variety of subdisciplines making contributions to interactionism. McGuire, an experimental social psychologist, captured the non-mechanistic characteristic of interactionism best when he noted (1973, p. 448):

> . . . [S]imple a-affects-b hypotheses fail to catch the complexities of parallel processing, bi-directional causality, and reverberating feedback that characterize cognitive and social organization.

As Endler and Magnusson (1976, p. 13) noted, the most central theme emerging from the modern person-situation interaction conceptualization of behavior is its organismic perspective. This perspective, in contrast to a mechanistic one, views people and situations in continual and cyclical reciprocal

interaction, causing and affecting each other. In brief, this perspective assumes that, as Bowers (1973) noted, person and situation are difficult if not impossible to separate.

What this means in practice is that researchers can no longer think about person-situation interaction as only an algebraic multiplicative term in an ANOVA table or moderated multiple regression formula; they must also consider the reality of natural interactions, the reality of ongoing person-person and person-environment transactions. Pervin and Lewis (1978a), for example, discuss five different ways of thinking about interaction (e.g., algebraic, additive, interdependent, descriptive and reciprocal action-transaction). Terborg (in press) is similarly effective in explicating these various perspectives in his paper "Why must we spell interaction with an X: Some alternative views of person X situation interaction."

While interactionism has been concentrated in the psychology of personality (with at least three recent books of readings: Endler & Magnusson, 1976; Magnusson & Endler, 1977; Pervin & Lewis, 1978b), there appears to be growing interest on the part of other psychologists (e.g., Cronbach & Snow, 1977, on aptitude/treatment interactions in educational and training settings) and industrial-organizational psychologists (e.g., Terborg's, 1977, and Schneider's, 1978, work on ability/situation interactions in the work setting) to borrow concepts from the field. Of course, an original in terms of interactionist thinking in the study of leadership and work behavior is Fiedler (1967).

Vocational and Industrial Psychology

For the most part the personality theorists doing research in, and writing about, interactional psychology have ignored the heavy concentration of interactionist ideas in vocational and industrial psychology. Of all contemporary theorizing about work, career theory has been most explicit about the nature of person-situation interaction. For example, Super's (1953) concept of a career as a person-occupation synthesis or merger, Holland's (1973) idea that career choice is a function of self-selecting a match between self and occupational environment, and Hall's (1971) view of career subidentity development as an individual behavior-organizational responsiveness/reward cycle, all make explicit the person-situation interaction idea. Indeed, Schein (1978), calls the second part of his book on careers "Career Dynamics: The Individual-Organization Interaction."

In addition, the industrial psychologists' traditional concern for employee selection and attrition are, at their basis, interactionist in perspective. Thus, the attempt in personnel selection studies to define job requirements, and to find people with the required abilities, and the work on understanding employee turnover as an outcome of person-situation incompatability are both interactionist in perspective and both at the core of industrial psychology. It is true that the better the fit of a person's ability to the requirements of a job the more likely the job will be done competently (Ghiselli, 1966, 1973; Pearlman, Schmidt & Hunter, 1980) and the more satisfied workers are with their work situations the less likely they are to leave them (Mobley, 1977; Price, 1977; Porter & Steers, 1973).

In what follows, a framework for understanding organizational viability will emerge. This framework builds on the interactionist assumption that as a result of natural person-person interaction, person and situation are frequently integrated. How person and setting come to be relatively integrated is presented as the outcome of a cycle of attraction-selection-and attrition. This cycle suggests some of the causes for person-situation integration but also suggests some potentially negative consequences for organizations if steps are not taken to prevent them. Basically the thesis is that organizations are viable when they attract, select and retain diverse kinds of people who are able and willing to comprehend what an organization's goals should be and to behave in ways that push the organization toward the future.

Attraction and Attrition: The Human Side of Organizational Effectiveness

The attraction and attrition of employees are rarely addressed as elements in the study of organizational effectiveness. For example, Campbell, Bownas, Peterson and Dunnette, (1974, p. 226) noted that:

> A neglected area of research [on organizational effectiveness] has been the effects on the organization of significant changes in the kinds of people that are entering it. The entire domain of organizational effectiveness research and organizational change has a very environmentalistic point of view.

Attraction. The literature on occupational entry and organizational choice suggests that people are differentially attracted by the attributes and characteristics of particular kinds of career and work environments. Most notable of these theories is one proposed by Holland (1973).

Holland proposed that occupations can be clustered into types and

that those types were useful in characterizing both people and work environments. As he put it (1976, p. 533): "Vocational choice is assumed to be the result of a person's type, or patterning of types and the environment" and that ". . . the character of an environment emanates from the types [of people] which dominate that environment" (1976, p. 534). In essence, then, Holland proposed that career environments are characterized by the kind of people in them and that people choose to be in environments of a type similar to their own.

Hall (1976, p. 36) notes that not much research has been conducted on Holland's formulation as a model of organizational attraction. However, Schneider (1976) has noted that the apparent chasm separating occupational from organizational choice seems easy to bridge. Holland's view is that occupations can be clustered into six major categories: intellectual, artistic, social, enterprising, conventional, and realistic. It can be shown that these labels might also be used to categorize the goals of organizations. For example, YMCA's and mental hospitals have Social goals, insurance companies and stock brokerages have Enterprising goals and orchestras and theaters have Artistic goals. The point is not to use Holland's classification scheme as the means for clustering organizations but to suggest that Holland's views on career or vocational choice are applicable to organizational choice. He would suggest that the organizations people join are similar to the people who join them.

There is no research which tests this hypothesis using Holland's strategy for clustering organizations. However, similar views on person-organization fit have successfully been researched using organizational choice as the dependent variable of interest. For example, Tom (1971),

building on Super's (1953) view of occupational choice as self-image implementation, showed that people's self-perceptions were more consonant with descriptions of their most-preferred organization than with their descriptions of any other organization. Vroom (1966), who based his work on an expectancy theory formulation, showed that a good fit between MBA's desired outcomes from work and their instrumentality perceptions for various organizations, predicted actual organizational choice. These studies support the idea that people's own characteristics (self-image, desires) are predictive of the kinds of work settings to which they will be attracted.

Perhaps the strongest evidence for the idea that people tend to cluster into types with similar attitudes and similar behaviors is presented in the work of Owens (cf. Owens & Schoenfeldt, 1979). Owens and his colleagues have pursued the idea that, based on biodata, one can classify persons into clusters which will be useful for understanding differences in the behavior of members of different clusters. Owens and Schoenfeldt have been able to show that people in different biodata clusters differ in such ways as their: responses to projective stimuli, academic achievement, major while in college, memory capacity, interests, attitudes, response to monetary incentives, leadership roles on campus, and so forth. Owens and Schoenfeldt consistently find that cluster membership is as useful in predicting individual behavior as is data about the specific individual; their data clearly suggests that people of like type behave in like ways.

The findings of Tom, Vroom, Holland and Owens and Schoenfeldt are examples of how persons and work situations can become relatively inseparable through the operation of a similarity-attraction process not unlike the

the one proposed by Byrne (e.g., 1971) to explain diadic attraction. Certainly the interest inventory literature supports the idea that people with similar attributes tend to be attracted to similar occupations and careers (Crites, 1969). Indeed, the evidence from studies on employee attrition clearly indicate that when individuals are no longer attracted to organizations, they will leave it (Porter & Steers, 1973).

Attrition. The study of employee turnover has, in a real sense, been both the dependent variable in attraction (career and occupational choice) research and a practical problem for industrial psychologists. Operating under the assumption that high turnover is costly for organizations, industrial psychologists have studied both the causes and consequences of attrition.

The literature on turnover has been reviewed many times (e.g., Brayfield & Crockett, 1955; Mobley, 1977; Porter & Steers, 1973; Price, 1977; Vroom, 1964) and a consistent finding has been that, while there exist some complex mediators (availability of job alternatives, state of the economy [Mobley, 1977]), satisfaction and attrition are meaningfully negatively related. More specifically, Porter and Steers (1977, p. 169) showed that dissatisfaction with various work and work setting issues affect turnover:

> Sufficient evidence exists to conclude that important influences on turnover can be found in each of these categories [of concern]. That is, some of the more central variables related to turnover are organization-wide in their derivation (e.g., pay and promotion policies), while others are to be found in the immediate work group (e.g., unit size, supervision, and co-worker relations). Still

others are to be found in the content of the job (e.g., nature of job requirements. . .

These very issues, of course, are important elements in the identification of the nature of work settings vis á vis a career framework like Holland's (1973) or even the organizational choice model of Vroom (1966). This suggests that, from an interactionist perspective, the nature of jobs, interpersonal relationships, and reward systems which organizations display to workers must fit their needs or attrition will follow the predictable dissatisfaction which will arise (Wanous, 1980).

The interactionist perspective suggests that organizations which, on the surface, appear to be one thing yet are, in fact, different, will attract employees who have needs which don't "fit." Perhaps this is why researchers have been able to show that clarification of the nature of organizational practices and policies regarding such issues as job content and supervision practices (in what is called realistic recruitment) seems to yield decreased attrition levels (Wanous, 1980). Supporting this conclusion are the studies cited by Porter and Steers (p. 166) which reveal that people who take jobs which do not fit their tested vocational interests are more likely to quit (Boyd, 1961; Ferguson, 1958; Mayeske, 1964).

A result of the processes of career and organizational attraction and attrition might be to narrow the range of types of people in any one organization. That is, if the full range of needs and abilities is not attracted to each occupation, career or organization, then there will be a restriction in the range of abilities and needs represented (Schneider, 1976). This restriction in range may yield "right types" (Alderfer, 1971; Argyris, 1957) - people who share common experiences and orientations. Thus, people

with similar abilities and needs tend to be attracted to particular settings and people with similar sets of reactions to their experiences tend to remain in those settings. Interactionist thinking would lead to the conclusion that this restriction in the range of people in particular organizations would yield organizations, occupations, and careers that were characterized by the kind of people who are attracted to them and remain in them. That is, over time, interpersonal interaction would result in people and situation becoming integrated. If this happened, it would produce relative homogeneity and a certain amount of routine in response to stimuli from the external world. It could be predicted, then, that if the larger environment was relatively turbulent then organizations would be generally unable to respond to events outside the restricted range of the people's abilities and experiences.

Fortunately this conclusion need not necessarily follow. On the one hand organizations can somewhat control their destinies by playing an active role in the selection decisions they make and, on the other hand, organizational goals can also play an important role in how narrow the range of employees becomes. In the sections which follow, the role goals play in the attraction-selection-attrition cycle is explicated and then the topic of selection is considered.

Goals

While interactionism has a great deal to say about how person-person interaction in settings yields what those settings become, and attraction and attrition theory tells us that like types end up in similar places, none of these perspectives says anything special about what people are attracted to, interact with, and leave. That is, when the issue of interest

is organizational effectiveness, it is organizations that are the locus of the discussion.

Organizations do not just exist; organizations have life cycles with beginnings--and, frequently, with endings. As Kimberly and Miles (1980) have recently shown, the life cycle of organizations has infrequently been addressed.

In the present article, organizations are conceptualized as systems which must continually evolve in order to remain viable. These systems are assumed to be activated and directed by goals. For the moment, what is important about goals is that (a) someone begins an organization with them and (b) mostly by happenstance, as a result of natural interaction, some organizational structures and processes emerge for moving the organization to goal accomplishment. The first issue, goals and the beginnings of organizations, is important because it emphasizes the fact that all organizations have goals, clear or not. Consideration of the second topic, the relationship between goals and organizational structures and processes, will be presented as an outcome of the attraction-selection-attrition cycle.

An organization's initial goals come from the people or person in power - people who, by their decisions, can affect the levels of activity and directionality of the organization. Of course, the people in power may change and it is sometimes thought the organization's goals will change when the people in powerful positions (President, CEO) change. However, after the initial phase(s) of organizational growth it is all those defining behavioral characteristics of organizations - organizational structure, technology, management philosophy, reward systems, staffing processes - which constitute the operational definition of organizational

goals; where an organization is going is not where someone says it is going but where its internal behavioral processes actually take it! Thus, while early in an organization's life, goal statements can energize and direct activity, over time it is the structures and processes that emerge out of the interactions of people for accomplishing the initial goal statements which sustain activity and maintain directionality. It is, then, the processes which emerge for accomplishing historical goals, not current goals, which give organizations stability and, in the face of changing environments, which may result in decay (witness the lag in time between the auto industry's goal to downsize cars and the processes for actually producing smaller vehicles).

The importance of goals for the present thesis is that, as shown in Figure 1, they form a hub from which all organizational processes emerge. Thus, people are attracted to organizations because of organizational goals, organizations select people who appear to be able to help the organization achieve its goals, and people who achieve their own goals there will tend to remain in the organization. The role of goals in attraction, selection, and attrition is important because ". . .the choices made at time of creation. . .powerfully shape the direction and character of organizational development" (Miles, 1980, p. 431).

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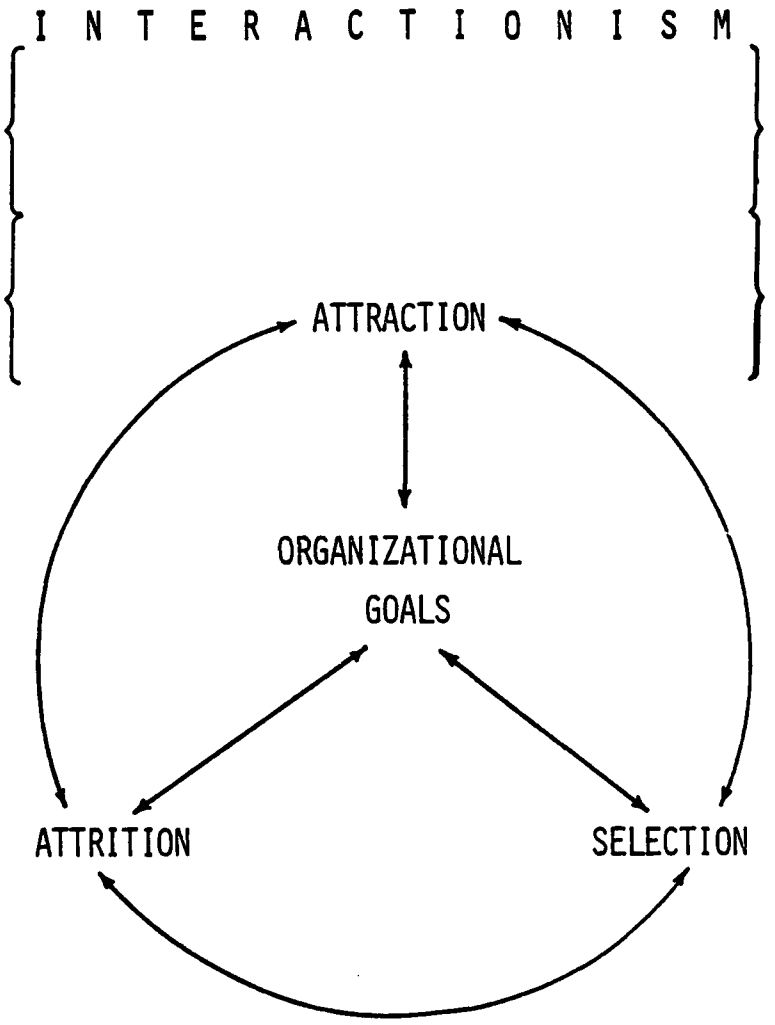
The reason why early goals shape the future is because they determine the kinds of people in the organization and it is from those people and their interaction that the form of the organization will emerge. Thus,

FIGURE 1


I N T E R A C T I O N I S M
ATTRACTION
ORGANIZATIONAL
GOALS
ATTRITION
SELECTION

out of the natural interactions of people making choices about the procedures required for goal accomplishment will come the early form of the organization. That early form, of course, will play an important role in who is attracted to an organization and who will remain in it.

The study of organizational effectiveness (or the more general study of organizational design), then, must pay careful attention to the attraction, selection, interactional patterns, and withdrawal processes of people. Organizational structures and processes such as technology, structure, communication, leadership, etc. (cf. Steers, 1977) are of consequence to the study of organizational effectiveness because they emerge out of the interaction patterns of people (Weick, 1969) who pursue their view of organizational imperatives. In other words, organizational processes like those named above are, in a real sense, to be viewed as <u>dependent</u> variables, as well as independent variables, in the study of organizations.

Campbell, et al. (1974) noted that the study of organizational effectiveness has proceeded from a very environmentalist point of view: the turbulent environment, size, levels of hierarchy, technology, etc., are the foci of research. The present view of organizations is radical in that it places these situational variables in their appropriate place - they are cyclically both independent and dependent variables interacting with (i.e., causing and being caused by) the types of people who are attracted to and retained by organizations. The present view of organizations then, is based on the assumption that because people's behavior determines organizational behavior, the important questions of interest in studying organizational effectiveness have to do with understanding the cycles of goal definition → organizational design → attraction → selection → attrition →

comprehension → goal definition which characterize a particular organization. It can be predicted that the clearer an organization is about the importance of monitoring organizational imperatives and setting in motion processes for appropriate goal definition and coping with change, the more viable the organization will be. The way organizations can make this happen is by insuring that they attract, select and retain people who will actually engage in these future-oriented kinds of behaviors. Consideration of the role of personnel selection as a determinant of the kinds of people in organizations will reveal the importance of these issues for organizational viability.

Selection

Beginning with their relatively dramatic success during World War I, industrial psychologists have evolved a technology for predicting individual effectiveness at work. This technology builds on two major suppositions: (1) The best predictor of future performance is past performance and (2) ability to learn and/or do a job is predictable based on pre-job assessments of task-relevant personal attributes.

Personnel selection is the embodiment of the Functionalist tradition in psychology: concern for the purpose, or function, of behavior, and belief in individual differences. In a real sense, Darwin's theory of adaptation and effectiveness is the philosophical basis for modern personnel selection, especially through the influence of Galton and Spearman in England and James McKeen Cattell in the U.S. (Boring, 1950). These men believed in individuals as the locus of behavior and that some individuals were more fit than others for survival and adaptation.

Without getting into the issue of heredity vs. environment (both

Galton and Spearman did), it seems clear that the personnel selection approach to the prediction of individual behavior at work or school has been useful. Biographical information blanks and interviews have been used very successfully to make predictions for job incumbents as different as clerks and managers (Schneider, 1976) and aptitude testing has been shown effective for jobs like accounting, insurance sales, and bank tellers (Ghiselli, 1966).

A major question concerning personnel selection has always been the generalizability of predictors from setting to setting for the "same" job. Thus, although Ghiselli (1966, 1973) was able to show reliable predictions of job performance for the same jobs in different settings (and using different measures of similar job-related aptitudes), sufficiently discrepant results in the literature, and EEOC regulations, led to the admonition to "revalidate in each new setting."

Recently Schmidt and his colleagues (cf. Pearlman, Schmidt & Hunter, 1980; Schmidt & Hunter, 1977; Schmidt, Hunter & Pearlman, in press) have developed an algorithm for estimating the generalizability of validity of predictors across settings. The algorithm takes into account differences in validity coefficients from setting to setting, attributing those differences to a number of sources of nonrandom error. For example, in a recent effort, they (Pearlman, et al., 1980) showed that for 32 distributions of correlations resulting from validity studies of ten types of aptitude tests for the prediction of clerical performance, about 75% of the variance in validity coefficients in each of the 32 distributions was accountable for by test and criterion unreliability effects, range restrictions effects and sampling error. These findings suggest that there is relatively little situational specificity to the validity of tests; that <u>measurement</u> effects, not situational differences,

account for differences in validity coefficients. In the words of the authors (Pearlman, et al., 1980, p. 399):

> . . . the results of this study . . . cast serious doubt on the traditional belief that employment test validities are situationally specific. In our judgment, these combined findings justify the conclusion that situational specificity is largely an illusion created by statistical artifacts.

In other words, clerical aptitude tests are accurate predictors of clerical performance regardless of the situation in which the tests are used. What are the implications of these findings for organizational effectiveness?

One interpretation of these data is that one organization will be more effective than another if it uses appropriate aptitude tests as a basis for selecting new employees. This conclusion may be true but it is not necessarily true. What can be concluded is that an organization which uses appropriate tests will probably be more effective than it was when it used no tests (Taylor & Russell, 1939).

A more sophisticated question about the role of selection in organizational effectiveness would ask how well a particular selection system meets the goals set for it and whether those goals, in turn, move the organization to organizational level goal accomplishment and continued viability.

Professionally developed selection systems do assess the extent to which particular predictors are valid for job performance. Indeed an organization which uses professionally developed selection systems will have a large number of predictors, a few for each of the differentiable jobs on which performance is thought to be important for the organization as a whole. It is important to know, however, that predictors are thought

to be useful when they are accurate for predicting job performance according to current standards of performance effectiveness. That is, the aim of all personnel selection programs is the prediction of who will be able to perform on jobs as they currently exist (Schneider, 1976). At the level of everyday operatives (clerical personnel, bank tellers, machinists, and so on) this might be slightly risky but at the managerial level this may be very dangerous. This may be dangerous because of the changing nature of the world with which many managers are forced to deal and because of the attraction-attrition issues discussed earlier.

The latter is meant to indicate that the processes in organizations for goal accomplishment emerge from the naturally occurring interactions of people. Sometimes, however, early decisions about goal accomplishment are incorrect and sometimes decisions which were correct at one point in time fail to fit newer realities. A major issue for organizations, then, is the comprehension of newer realities and selecting appropriate strategies for dealing with them.

If organizations do not have people who can comprehend new realities and make appropriate strategic decisions for redirecting organizational energies, they will experience what Argyris (1976) calls "dry rot." Dry rot, according to Argyris, refers to the tendency of organizations over time to become increasingly unresponsive to signals from the larger environment that change is necessary. Organizations, he notes, tend to attract and retain managerial people who are "right types," i.e., people who have similar comprehensions, similar experiences and similar reactions. This very similarity yields stability but also, perhaps decay.

Little is known in industrial psychology about the individual at-

tributes associated with the motivation to attend to the organization's larger environments or the ability to accurately comprehend them. Certainly it is too easy to fall back on either March and Simon's (1958) "bounded rationality" view of decision makers or the more contemporary deterministic conceptualizations suggesting that chief executive officers (and other decision-makers) have essentially no discretion over the direction their organizations take nor their level of activation (Aldrich, 1979; Pfeffer & Salancik, 1978). These views make it sound like organizations, not people, make decisions or that environments, not the people in those environments, structure options for organizational decision-makers. At its core, however, the viable organization will always have people who can comprehend the nature of the relationship between their organization and the larger environment and carry out the process of goal redefinition so essential to the continued viability of the organization.

This suggests the necessity for organizations to have managers who are boundary-spanners (Adams, 1976; Thompson, 1967), people who are the focus of organization-environment interaction. It is people who occupy these roles who are best in position to comprehend new realities and the necessity for the organization to redirect its energies. It is people who have comprehension competency, the ability to make sense out of the larger environment, that organizations must attract, select and retain. These are the kinds of individuals who should be willing and able to provide information to continually lead others to question their comprehension of the imperatives of the organization and to avoid groupthink (Janis, 1972).

An analogy to Janis' (1972) groupthink construct will serve to clarify the current conceptualization. Janis showed that decision-making groups

reveal six major defects that contribute to their failure to solve problems adequately (Janis, 1972, p. 10):

1. the group's discussions are limited to a few courses of action (often only two) without a survey of the full range of alternatives.
2. the group fails to reexamine the course of action initially preferred by the majority of members from the standpoint of nonobvious risks and drawbacks that had not been considered when it was originally evaluated.
3. the members neglect courses of action initially evaluated as unsatisfactory by the majority of the group.
4. members make little or no attempt to obtain information from experts who can supply sound estimates of losses and gains to be expected from alternative courses of action.
5. selective bias is shown in the way the group reacts to factual information and relevant judgments from experts, the mass media and outside critics. . .
6. the members spend little time deliberating about how the chosen policy might be hindered by bureaucratic inertia, sabotaged by political opponents, or temporarily derailed by the common accidents that happen to the best of well-laid plans.

Janis assumed that these six defects result from groupthink but that they ". . . can arise from other forms of human stupidity as well -- erroneous intelligence, information overload, fatigue, blinding prejudice, and ignorance" (p. 11).

The ideas presented in this paper suggest that these defects

will have a tendency to emerge in organizations as a result of the naturally occurring interaction patterns of similar people. That is, through a natural cycle of attraction, selection, and attrition, groupthink and inertia is more likely; groupthink and inertia, then, are interpretable as outcomes of the process of the emergence of organizations. It can be predicted that unless organizations consciously adopt strategies for avoiding inertia, they may suffer from the kinds of deficient decision-making which resulted in the Bay of Pigs fiasco. Janis suggests some potential case studies of organizational decisions which might help illuminate the phenomenon: Grunenthal Chemie, the German manufacturer of Thalidomide, which ignored reports regarding birth defects arising from use of the drug by pregnant women, Ford Motor Co. and the Edsel; and so forth.

Janis' prescriptions for avoiding groupthink fit well with the ideas presented earlier on comprehension of the larger environment by boundary-spanners and they are noted below in paraphrased form (Janis, 1972, pp. 209-211):

1. Each member of a decision-making group must be required to play the role of critic and the leader must be accepting of criticism so that s/he serves as a role model.
2. Leaders should delegate responsibility to policy-making groups without stating preferences for particular outcomes. An atmosphere of open inquiry and impartiality is more likely, then, to prevail.
3. Organizations should have a policy of establishing several independent policy-planning groups to work on the same policy question, each carrying out its deliberations under a different leader.

The dilemma for organizations, of course, is how to accomplish these prescriptions in the context of the push to "like-types." That is, while Janis' prescriptions appear difficult enough to implement when only the group phenomenon exists, they become more problematic when one considers the additional inertia resulting from the attraction-selection-attrition cycle. One questions the possibility of finding people who can meet these kinds of demands, people who are psychologically healthy and mature enough to withstand pressures to conformity. Fortunately, as will be noted in more detail later, the picture is not totally bleak. It is not totally bleak for three important reasons: (a) personnel selection systems in most organizations insure the selection of somewhat different kinds of people because most organizations contain many different kinds of jobs with different kinds of requirements; (b) managers as a group tend to be not quite so narrow-minded and blind to the future as the preceeding suggests; and, (c) the natural tendency for organizations to be differentiated by function results in at least some confrontation when decisions affecting everyone need to be made.

In what follows, the above three issues and others will be addressed in detail as a series of conclusions about the theoretical, methodological, and practical implications of the attraction-selection-attrition view of organizations are presented.

THEORETICAL, METHODOLOGICAL, AND PRACTICAL IMPLICATIONS

I. Theoretical Issues

1. Major theoretical outcomes. The perspective presented here, grounded as it is in natural interaction at work, leads to thoughts on three major theoretical issues in the study of organizations: (a) the "people"

element in organizational design and effectiveness, (b) organizational change, and (c) relationships to other organizational variables (e.g., structure, technology).

(a) Because goals only initially activate and give direction to organizations, it is critical for organizations to attract, select, and retain people who, through interaction with each other and the larger environment, continually monitor that environment and use their perceptions as stimuli to direct and redirect the organization's activities. Only through constant sensing will the structures and processes which emerge in organizations be appropriate vehicles for the solution of the tasks at hand and those which may emerge in the future.

Many organizations depend on a kind of natural selection to insure the acquisition and retention of these special kinds of people, concentrating instead on the prediction of the behavior of everyday operatives. While such concentration provides organizations with a certain amount of diversity, most people are probably not adept at the kind of comprehension required for sensing the multiple constituencies existing in an organization's environment which require attention. Organizations can undergo potentially shattering cycles of recruitment and turnover because of misguided thinking on matching CEOs to an organization's current goal-oriented practices and procedures (or, worse, to an organization's goal statements) when it is the future ("future-perfect thinking"; Weick, 1979) which usually receives the least attention.

Thus, emerging from the four streams of thought presented earlier (interactionism, attraction, selection, and attrition) it is clear that organizations, unless they are pushed, will tend towards stability or slow

decay. Indeed, following Aldrich's (1979) concept of organizational niche, we can hypothesize that, in the absence of people who serve as sensors and goal redefiners to direct and redirect them, organizations will occupy increasingly narrow niches, constricting and constraining choices and options resulting in stability or slow decay.

A major benefit to be accomplished by attracting, selecting and retaining "non-right types" is the maintenance or expansion of the organization's environmental niche. Conventional marketing, lobbying, and other attempts at controlling the environment based on past successes (Child, 1972), will not be as effective as those which are relevant to the organization's future.

Fortunately, the situation for the selection of non-right types may not be as bleak as portrayed here. For example, Campbell, Dunnette, Lawler, and Weick (1970, pp. 195-196) show that the:

> . . . construct of effective executiveship. . . includes such factors as high intelligence, good verbal skills, effective judgment in handling managerial situations,. . . and organizational skill; dispositions toward interpersonal relationships, hard work, being active, and taking risks; and temperamental qualities such as dominance, confidence, straightforwardness, low anxiety, and autonomy. Moreover, men rating high in overall success report backgrounds suggesting a kind of "life-style" of success - excellent health, scholastic and extracurricular leadership in high school and college, assumption of important responsibilities rather early in life, high ambition, and active participation in religious, charitable, or civic groups.

While this description makes one feel less depressed about the leadership of organizations, the variables on which the executives were assessed (intelligence, dominance, high ambition, etc.) and the criteria of success (salary and/or climbing the corporate ladder) should be viewed with some skepticism. Variables like boundary-spanning capabilities, capacity for balancing conflicting multiple constituencies, political sophistication, ability to transform perceptions into action, ability to make decisions under ambiguity, and so on were not assessed as predictors nor were the criteria of effectiveness necessarily relevant to organizational viability.

This is not meant to suggest that such issues could not be assessed, just that they have not been assessed. Clearly it is possible to design, for example, an assessment center process (e.g., Moses & Byham, 1977) for evaluating these kinds of competencies. Indeed, it might even be feasible to gather data on people which suggests the extent to which they are likely to serve as the kinds of hatchet men or other anomolies that Rickards and Freedman (1978) suggest are important for organizations.

Another possibility in the selection mode is the further development of what Latham, Saari, Pursell and Campion (1980) call the situation interview. This interview procedure presents people with likely/critical decision situations and asks them to report their most likely behaviors. It should be noted that this kind of procedure, and the assessment center method, are clearly in keeping with the comprehension competencies idea mentioned earlier; all that is needed is the design of situations which require sense-making, boundary-spanning, outward- and future-oriented behaviors.

At the organizational level itself, perhaps of greatest hope for avoiding sameness/stability and decay is the fact that organizations tend towards differentiation (Lawrence & Lorsch, 1967). Differentiation, or functional specialization, should yield organizations which attract, select and retain many different kinds of people with different vantage points on the required directionality of the organization. The interactionist perspective presented here clearly suggests that the "departmental identification of executives" (Dearborn & Simon, 1958) is a sign of organizational health and not something necessarily to be changed. Parenthetically, it is also clear why loosely coupled systems (Weick, 1976) may be more effective than traditional, hierarchically controlled, systems: whenever "the system" needs to make a decision there will be (a) many critics and (b) many policy-making groups, each composed of like-types but between them almost guaranteeing a complete exploration of the issues.

(b) On the topic of organizational change, the present framework suggests that change will be difficult. More specifically, it can be hypothesized that the older an organization is and the more undifferentiated it has been, the more time consuming will be the change. This hypothesis follows from an "inertial" view of organizations, one which emphasizes that, over time, organizations build up inertia that keeps them moving in predetermined ways down predetermined paths. Young organizations should be relatively easy to change because of the relative lack of inertia but, but as they age and keep attracting, selecting and retaining like-types, change should be increasingly difficult. Another way of saying this is that as organizations work themselves into increasingly tight niches, they lose degrees of freedom with respect to change. This will be especially

true when an organization strives for and achieves homogenization because the entire system will tend to be composed of people of a similar sort.

We may also deduce from this developmental view of organizations that newer organizations will have higher turnover rates than older ones. This hypothesis follows from the idea that the operating processes of an organization emerge from the interacting behaviors of organizational members rather than in a fully formed version. As the systems emerge, they become more definitive, yielding on the one hand, turnover of those who do not fit but, at the same time, clearer information for potential new members to use as a basis for choice.

Note here that this principle assumes that the processes which evolve are sufficiently operational in form that they yield relatively clear specification of the organization's directionality. Without such specification, goal attainment is unknown because feedback is not possible. We can deduce, in turn, that poor goal definition yields chaos because people have a difficult time making appropriate participation choices (entry and withdrawal) (Wanous, 1980). When people make poor participation choices because of ambiguity in goal specification the result is different individuals in the same setting attaching personological meaning to organizational imperatives.

Paradoxically, it follows that organizations which have been functioning under conditions of poor or diverse goal definition and loosely coupled (Weick, 1976) or underbounded (Alderfer, 1979) organizations will be easier to change; i.e., they will be easier to activate and direct. Typically, but obviously not always, these will be younger organizations. Older organizations, then will generally have operating processes with more de-

finition and stability. As organizational process definition is merely a reflection of people, it is the people who need to be changed if one desires a changed system.

While early writings on organizational change, especially those coming out of the T-Group movement (e.g., Bennis, Benne & Chin, 1961), addressed change at the individual level, more recent essays conceptualize change primarily in terms of organizational subsystems (incentives, management philosophy, job design). These writings (see Alderfer, 1977, for a review) typically fail to entertain change through either attraction and attrition or individual counseling as viable alternatives. However, the present framework indicates that it is primarily through these kinds of changes in people that organizational change will occur.

Anecdotal and some research evidence suggest that organizations can overreact to the necessity for organizational redirection by arranging for an immediate transfusion of "new blood." For example, mergers, takeovers, or the suggestions of consultants can result in the hiring of extreme non-right types, i.e., people who don't fit at all. Like mismatched blood, the host organism reacts to reject the foreign body. As Alderfer (1971) showed, antagonism, mistrust, conflict, etc. can be the result. Without legitimizing and institutionalizing the necessity for change, and having mechanisms for handling change it can be predicted that what Alderfer found would be the norm.

These findings suggest a final thought on change: Different organizations, because they are most likely composed of different types of people, will require different change strategies. Precisely what the different types of change strategies need to be cannot now be specified, but the

present framework suggests a contingency theory of change is probably a necessary feature of the change arsenal. For example, returning to Holland's (1973) categorization of careers, change efforts in enterprising occupations (e.g., stock brokerage houses) might need to be conducted differently than in more social industries (e.g., YMCAs).

c. With respect to the relationship between the present perspective and other organizational variables, the major deduction is that goals, structure, and technology, the characteristics of organizations most often thought of as providing organizational definition, are mediating or dependent variables in the present view. Thus, centralization, functional specialization, formalization, span of control, etc. are states which follow from the kinds of people who were the founders of organizations and the choices those people made about the niches they attempted to occupy and exploit as they pursued their goals. In turn, the decisions about niche (i.e., market), in large measure, determine technology (Child, 1972). I say "in large measure" because people, through innovation, can themselves dictate the technology.

Perhaps the most interesting facet of the present framework vis á vis structure and technology is that the concentration on people may help explain why structure and technology have so successfully resisted efforts at conceptualization and empirical verification. Even when the larger environment of the organization is taken into account as a moderating variable, these two central issues resist clarification and the relationship between the two assumes various forms (Hickson, Pugh, & Pheysey, 1969; Mahoney & Frost, 1974). The latter authors, in particular, come closest to the present conceptualization when they show that different technologies

may require different forms of activity in order to be effective. Although they concentrated on different technologies, it may be that the true issue which was underlying their findings was the type of people, i.e., different kinds of people need to be dealt with in different ways in order for their units to be effective.

In summary, the present framework has resulted in a number of deductions regarding attraction to organizations, attrition from organizations, the kinds of people organizations need to select, organizational change, and the source of structure and technology.

2. Expansion of understanding of organizational behavior. The field of organizational behavior (OB) has emerged out of various older disciplines, primarily psychology and sociology. Pugh (1966), in an important but overlooked paper, reviewed the underpinnings of OB coming from the "individual theorists" (primarily selection researchers) and concluded that such efforts had not yielded much in the way of an understanding of organizational functioning.

The present paper attempts to fill this void by describing a framework for understanding the behavior of organizations which rests almost completely on the nature of the people in the setting. Thus, at the most fundamental level, the present framework posits that organizational behavior is understandable as the aggregate of the behavior of naturally interacting people pursuing some shared goal. The goal they share is organizational viability, i.e., the maintenance of a superstructure in which their behavior is rewarded and supported. While this is an egocentric view of the reason for organizational viability it is consistent with the person-centered focus of the paper.

This position is important because it focusses attention on the humanness

of organizations (i.e., the physiology of organizations) rather than on the structure of organizations (i.e., the anatomy of organizations) arguing that the former dictates the latter. This is true because of the developmental perspective presented earlier which suggests that the first chores of organizations are niche selection, activation and direction which are followed by the adoption of structures and technologies for goal accomplishment. Organizational decay comes from failure to continually repeat this cycle, from a rigidity emerging out of inertia created by an attraction-selection-attrition cycle grounded in past successes rather than the demands of the future.

In essence, then, the present thoughts on effectiveness direct scholars' views to the input side of organizational design rather than to throughput as the important causative element. This should not be taken to suggest that early post-entry experiences are unimportant. It is through early, organizationally imposed and controlled, encounters with the norms of behavior in a place that newcomers diagnose their "fit" to the setting and make the kinds of judgments that predispose them to stay or leave (Wanous, 1980). These early encounters with the organization and subsequent judgments by employees about "fit" are the reasons why most turnover in organizations occurs early in the tenure of employees. The style of the organization is easily diagnosed by newcomers because of the many media through which they "get the message": formal skill training, informal education about the context by other employees, apprenticeship/mentorship, debasement experiences, and seduction (Van Maanen & Schein, 1979; Wanous, 1980).

In summary, then, the present view of behavior places great emphasis

on understanding the nature of people in a setting as a first step in organizational diagnosis because all of the observed practices and procedures flow from the kind of people there.

3. Definition of organizational effectiveness. Continued viability is the way effectiveness has been conceptualized throughout. The present definition of organizational effectiveness is particularly appropriate to the private sector because public sector organizations almost never "fail" in the sense of dying. The framework, however, does suggest that public sector organizations may tend to be stable as the result of inertia due to a lack of a mix of person types and the relative independence of units from one another. Thus, both the lack of the necessity for confrontation between units and the lack of across-unit career pathing can lead to homogenization within units. In brief, the less a unit's directionality is confronted the more likely it is to tend to stability.

In the present conceptualization, size and stage of development have been addressed as important issues although no actual numbers or stages have been explicated. Thus, smaller and newer organizations were thought to be less homogeneous, more easily changed, and so forth while larger and older organizations were viewed as stable, difficult to change and experiencing lower turnover rates.

II. Research Issues

1. Major indicators (criteria) of organizational effectiveness. The ultimate criterion for the present concept is continued organizational viability. However, I agree with Campbell (1977, p. 15) that "The meaning of organizational effectiveness is not a truth that is buried somewhere waiting to be discovered if only our concepts and data collection methods were good enough."

Rather, the present perspective is a variant of the systems view of effectiveness, i.e., it specifies the attributes of an effective organization, a priori. These attributes are the attraction, selection, and retention of people who continuously question, probe, sense, and otherwise concentrate on their organization of the future. Assessment of organizational effectiveness, then, demands data on the relative expenditure of effort/money/energy/manpower directed at attracting and retaining people whose major contribution to the organization is the push towards adaptation and change by constantly sensing and questioning the long-term viability of the organization's environmental niche. Subordinate to these data, but also necessary, are data concerning the attraction, selection, and attrition of operatives, those who are necessary to the maintenance and direction of the organization.

2. Comparative research implications. The major implication of accepting a systems, compared to a goal-oriented, view of organizational effectiveness is that the accomplishment of specific goals is important; activation, maintenance, and directionality toward continued viability are the processes that require assessment. Thus, while organizations can achieve specific goals, the range of potential goals is so great as to make comparative research unfeasible. Indeed, Hannan and Freeman (1977) argue forcefully that comparative research is at best problematic and at worst not possible, especially with goal-accomplishment perspectives on effectiveness.

The present perspective, being a systems view, provides for a relativistic vantage point regarding commitment of organizational resources to self-assessment and possible redirection and change. As such, the

position avoids some of the p oblems mentioned by Hannan and Freeman (1977). For example, Hannan and Freeman conceptualize the organizational survival approach only in terms of the continued ability of a system to extract resources from the larger environment while the present view proposes that it is the relative resources spent on the environment (i.e., on assessing the nature of the environment), not the resources acquired from the environment, that is important for long-term survival.

One issue touched on by Hannan and Freeman, but not thoroughly explored, concerns the question of time. In the present framework time is an important variable both from a developmental perspective and an assessment perspective. As the former issue has already been addressed in some detail, additional discussion is not required here.

However, the latter issue is important because one form of comparative research, ipsative research, requires time. Here I refer to that class of designs generically called time-series (Cook & Campbell, 1979) in which "subjects" serve as their own controls. Thus, an index of continued viability which follows from the ideas presented here is that effective organizations will continuously invest resources in generating data about what the future requires. When, over time, an organization is found to decrease investments in studying the utility and possibility of change, this should signal impending stability at best, and possibly decay. It would seem essential for organizations to self-monitor their relative investments in assessing the need for change or the relative (although not absolute) amounts may decrease over time indexing future problems.

3. Major methodological issues. The really interesting methodological issues t be grappled with concern organizational development questions.

What kinds of people interacting with each other yield which forms of organization? What kinds of entrepreneurs select which kinds of niches? What kinds of organizations attract and/or lose which kinds of people? How does the choice of a particular market niche eventually impact technology and structure? Can "comprehenders" and "sense-makers" (Weick, 1969; 1979) impact organizational direction? While human developmental research has been a major focus in the study of individuals, a similar emphasis has not been noticeable in the field of organization design (Kimberly & Miles, 1980). Yet it is clear that organizations do grow and develop and that this occurs as a consequence of variables similar to those in individual development: parentage, location, handicaps, etc. And, as with individuals, change does not cease, be it described as decline or growth.

A second important issue, this one raised when discussing the work of Holland (1973) and Schmidt, (e.g., Pearlman, Schmidt & Hunter, 1980), concerns the relative contribution of selection (both self and organizational) to organizational effectiveness. Especially with respect to selection by organizations, this kind of research has been ipsative in nature, i.e., it has been known for 40 years that an organization can improve itself by making wiser selection decisions (Taylor & Russell, 1939). What we still do not know, however, is whether traditional selection procedures make one organization better than another. It was hypothesized earlier that the selection and retention of people with comprehension competency who will push for change should be reflected in long-term organizational viability but no research seems to exist on this issue.

It was shown earlier that a concentration on the past, that is, on selecting the kinds of managers who have achieved standard criteria of success in the past, may not be a useful focus for selection. One alternative, of course, is to concentrate on the kinds of people who have been successful in the past at redirecting the organization so that it remains viable in the future. This slight change in the criterion of interest in selecting managerial personnel would be a way of integrating the more personnel-oriented traditional I/O ideas with contemporary thinking on organizational design and effectiveness.

Methodologically, a more difficult approach would incorporate ideas from content and synthetic validation studies (e.g., Guion, 1978). This approach, used effectively by human factors design people, predicts to the future by making judgments about the kinds of attributes people will need, for example, to operate a piece of machinery prior to the time the machine is built. Based on these estimates, selection procedures are designed which are judged to be predictive; Schneider (1976) has, indeed, called the process judgmental validity. It was suggested earlier that assessment centers or situation interviews (Latham, et al. 1980) may be employed as vehicles for making these kinds of predictions about the kinds of people the managers of the future will need to be.

Finally, the issue of person-situation interaction as a methodological issue was addressed. Specifically it was noted that people interact with each other in more ways than A X B algebraic interactions. Indeed, the idea of reciprocal interaction as the fundamental building block in the design of organizations was a major theoretical thrust.

III. Practical Issues

1. Prescriptions or guidelines. The framework has been quite prescriptive or normative in nature, indicating in a straight-forward way that decay may follow inertia which follows from an attraction → selection → attrition cycle which naturally emerges in organizations and which naturally results in stability due to like-types interacting with each other. These like-types will cease to be effective unless strong measures (a la Janis) are taken to combat what was called dry rot.

A counter-intuitive outcome of this approach was to suggest that the three forces of attraction, selection and attrition are not necessarily of value to organizations at the managerial level because they depend, in one way or another, on evaluating the correlates of past effectiveness; what organizations require for continued viability is assessment of what the future manager may require. In this vein it was explicitly recommended that organizational effectiveness be defined as the investments an organization makes in constantly assessing its future requirements for viability.

It should be noted that this line of thinking could lead to the erroneous conclusion that the best predictor of future behavior is not past behavior. I would argue that we can indeed predict future behavior based on past behavior but the kind of future behavior which needs to be predicted may be different than any past behaviors that have been displayed. The challenge will be to isolate those combinations of past behavior which are predictive of future, new, behaviors. The problem of selecting astronauts come to mind.

2. Diagnostic tools. It follows from the above that organizations must monitor their relative investments in attracting, selecting, and retaining people whose primary responsibility is to question, probe, sense, investigate, translate and otherwise assess the need for and the procedures for change.

One not-so-obvious diagnostic technique of use to organizations would be to monitor newcomers' perceptions of the organization, its goals and its future orientation. While ontogeny may not recapitulate phylogeny at work, newcomers, who need and seek cues and clues about organizational norms and values (Van Maanen, 1976), may be an excellent source of feedback on the current state of a setting. In a real sense, the socialization of newcomers in an organization may be an accurate mirror of the organization's goals and direction; newcomers will be sensitive to where current practices and procedures suggest the organization is going because they need this kind of information as a basis for their own adjustment process. In brief, if one desires information about an organization's activation, maintenance, and directionality, ask a newcomer!

This also suggests that the practice of asking current employees, regardless of how long they have been in the organization, to report on organizational practices and procedures may not be as useful as previously thought. Thus, rarely is tenure considered when evaluating survey responses even though Katz (1980, p.117) has clearly shown the effects of tenure on such responses:

> ...[W]hen employees continue to work at their same job positions for extended periods of time and begin to adapt to such long-term tenure, their principal concerns may gradually shift toward the

consolidation and maintenance of their work environments.

. . .One often hears the almost rote response of "leave us alone; we're doing just fine."

It is this orientation toward the familiar, the usual, the typical among established employees which must be monitored and compared to new employees.

3. Trade-offs, dilemmas and dysfunctional consequences. The major issue fitting this broad label is the non-right type. In the present framework non-right types assume a central role in organizational effectiveness yet that very role will create suspicion, conflict, strain, ambiguity, and an obvious power struggle between the forces of stability and the forces of change (Alderfer, 1971).

Purposefully creating conflict in organizations may depart from the usual models of organizational effectiveness but those models fail to recognize that management is a continual juggling act and that it is only when conflict over the directionality of organizational efforts ceases to exist that organizational decay will occur. Both the forces for stability and the forces for change must exist in uneasy balance for organizations to remain viable.

The stabilizing influence of long-tenured employees maintains directionality as does the keel of a sail boat. However in the face of severe storms or, better, in the anticipation of storms, some changes in direction are required. Navigating organizational waters, then, requires people with both kinds of orientations.

It is when the uneasy balance of these forces is addressed that more contemporary theories and methods of organizational development become useful. It is not that implementation of OD activities by themselves will make

organizations effective but such activities can yield strategies for listening, i.e., for changers and maintainers to "hear" each other so that their continued behavior is guided by potentially disconfirming ideas and evidence.

Naturally, organizations will pay the sensors and forces for change more money because they are rare, and thus valuable, people. Differentials in pay between people like CEOs and operatives, however, are rarely a source of friction in organizations as long as the organization remains viable; operatives typically acknowledge the utility and requirements for such people.

Of more concern will be the next level in the organization, say Vice President. At this level of specialization, there may be conflict over having the CEO's "ear" and it is particularly important for him/her to facilitate interchange among those at this level and between each of them and him or herself.

Great emphasis has been placed on the managerial role, especially those who are externally oriented comprehenders of the environment for, as noted, I believe that investing in such people is the true mark of the effective organization. I believe that people, not organizations, make decisions; that people <u>are</u> organizations; that organizations are differentially activated, directed and maintained as a function of the nature of the people they attract, select and retain; and, that over time organizations have a tendency to become internally homogenous and externally inflexible unless steps are taken to create the kind of tension necessary for appropriate decision making.

References

Adams, J. S. The structure and dynamics of behavior in organizational boundary roles. In, M. D. Dunnette (Ed.), Handbook of industrial and organizational psychology. Chicago: Rand McNally, 1976.

Alderfer, C. P. Effect of individual, group, and intergroup relations on attitudes towards a management development program. Journal of Applied Psychology, 1971, 55, 302-311.

Alderfer, C. P. Organization development. Annual review of psychology. Palo Alto: Annual Reviews, Inc., 1977.

Alderfer, C. P. Consulting to underbounded systems. In, C. P. Alderfer and C. L. Cooper (Eds.), Advances in experiential social processes (Vol. 2). New York: Wiley, 1979.

Aldrich, H. E. Organizations and environments. Englewood Cliffs, NJ: Prentice-Hall, 1979.

Argyris, C. Some problems in conceptualizing organizational climate: A case study of a bank. Administrative Science Quarterly, 1957, 2, 501-520.

Argyris, C. Problems and new directions for industrial psychology. In, M. D. Dunnette (Ed.) Handbook of industrial and organizational psychology. Chicago: Rand McNally, 1976.

Bennis, W. G., Benne, K. D., & Chin, R. (Eds.) The planning of change: Readings in the applied behavioral sciences. New York: Holt, Rinehart and Winston, 1961.

Boring, E. G. History of experimental psychology (2nd ed.). New York: Appleton-Century, 1950.

Bowers, K. S. Situationism in psychology: An analysis and critique. Psychological Review, 1973, 80, 307-336.

Boyd, J. B. Interests of engineers related to turnover, selection and management. Journal of Applied Psychology, 1961, 45, 143-149.

Brayfield, A. H., & Crockett, W. H. Employee attitudes and employee performance. Psychological Bulletin, 1955, 52, 396-424.

Byrne, D. The attraction paradigm. New York: Academic Press, 1971.

Campbell, J. P. On the nature of organizational effectiveness. In, P. S. Goodman and J. M. Pennings (Eds.), New perspectives on organizational effectiveness. San Francisco: Josey-Bass, 1977.

Campbell, J. P., Bownas, D. A., Peterson, N. G., & Dunnette, M. D. The measurement of organizational effectiveness. San Diego, CA: Navy Personnel Research and Development Center, 1974.

Campbell, J. P., Dunnette, M. D., Lawler, E. E., III., & Weick, K. E., Jr. Managerial behavior, performance, and effectiveness. New York: McGraw-Hill, 1970.

Child, J. Organization structure, environment and performance: The role of strategic choice. Sociology, 1972, 6, 1-22.

Cook, T. D., & Campbell, D. T. Quasi-experimentation: Design and analysis issues for field settings. Chicago: Rand McNally, 1979.

Crites, J. O. Vocational psychology. New York: McGraw-Hill, 1969.

Cronbach, L. J., & Snow, R. E. Aptitudes and instructional methods: A handbook for research on interactions. New York: Irvington, 1977.

Dearborn, D. C., & Simon, H. A. Selective perception: A note on the departmental identification of executives. Sociometry, 1958, 21, 140-144.

Endler, N. S., & Magnusson, D. (Eds.) Interactional psychology and personality. New York: Hemisphere, 1976.

Ferguson, L. W. Life insurance interests, ability and termination of employment. Personnel Psychology, 1958, 11, 189-193.

Fiedler, F. E. A theory of leadership effectiveness. New York: McGraw-Hill, 1967.

Ghiselli, E. E. The validity of occupational aptitude tests. New York: Wiley, 1966.

Ghiselli, E. E. The validity of aptitude tests in personnel selection. Personnel Psychology, 1973, 26, 461-478.

Guion, R. M. Content validity in moderation: Cautions concerning fairness. Personnel Psychology, 1978, 31, 205-213.

Hall, D. T. A theoretical model of career subidentity development in organizational settings. Organizational Behavior and Human Performance, 1971, 6, 50-76.

Hall, D. T. Careers in organizations. Pacific Palisades, CA: Goodyear, 1976.

Hannan, M. T., & Freeman, J. Obstacles to comparative organizational studies. In, P. S. Goodman and J. M. Pennings (Eds.), New perspectives on organizational effectiveness. San Francisco: Jossey-Bass, 1977.

Hickson, D. J., Pugh, D. S., & Pheysey, D. C. Operations technology and organizational structure: An empirical reappraisal. Administrative Science Quarterly, 1969, 14, 378-397.

Holland, J. L. The psychology of vocational choice (rev. ed.). Waltham, MA: Blaisdell, 1973.

Holland, J. L. Vocational preferences. In, M. D. Dunnette (Ed.) Handbook of industrial and organizational psychology. Chicago: Rand McNally, 1976.

Janis, I. L. Victims of groupthink. Boston: Houghton-Mifflin, 1972.

Katz, R. Time and work: Toward an integrative perspective. In, B. Staw and L. L. Cummings (Eds.), Research in organizational behavior, Vol. 2. Greenwich, CT: JAI Press, 1980.

Kimberly, J. R., & Miles, R. H. (Eds.) The organizational life cycle. San Francisco: Jossey-Bass, 1980.

Latham, G. P., Saari, L. M., Pursell, E. D., & Campion, M. A. The situational interview. Journal of Applied Psychology, 1980, 65, 422-427.

Lawrence, P. R., & Lorsch, J. W. Organizations and environments. Boston, MA: Division of Research, Harvard Business School, 1967.

Magnusson, D., & Endler, N. S. (Eds.) Personality at the crossroads: Current issues in interactional psychology. Hillsdale, NJ: Erlbaum, 1977.

Mahoney, T., & Frost, P. The role of technology in models of organizational effectiveness. Organizational Behavior and Human Performance, 1974, 11, 122-138.

March, J. G., & Simon, H. A. Organizations. New York: Wiley, 1958.

Mayeske, G. W. The validity of Kuder Preference Record scores in predicting forester turnover and advancement. Personnel Psychology, 1964, 17, 207-210.

McGuire, W. J. The Yin and Yang of progress in social psychology: Seven Koan. Journal of Personality and Social Psychology, 1973, 26, 446-456.

Miles, R. H. Findings and implications of organizational life cycle: A commencement. In, J. R. Kimberly and R. H. Miles (Eds.), The organizational life cycle. San Francisco: Jossey-Bass, 1980.

Mischel, W. Personality and assessment. New York: Wiley, 1968.

Mischel, W. Toward a cognitive social learning reconceptualization of personality. Psychological Review, 1973, 80, 252-283.

Mischel, W. On the interface of cognition and personality: Beyond the person-situation debate. American Psychologist, 1979, 34, 740-754.

Mischel, W., Jeffery, K. M., & Patterson, C. J. The layman's use of trait and behavioral information to predict behavior. Journal of Research in Personality, 1974, 8, 231-242.

Mobley, W. H. Intermediate linkages in the relationships between job satisfaction and employee turnover. Journal of Applied Psychology, 1977, 62, 237-240.

Moses, J. L., & Byham, W. C. (Eds.) Applying the assessment center method. New York: Pergamon, 1977.

Owens, W. A., & Schoenfeldt, L. F. Toward a classification of persons. Journal of Applied Psychology Monograph, 1979, 65, 569-607.

Pearlman, K., Schmidt, F. L., & Hunter, J. E. Validity generalization results for tests used to predict job proficiency and training success in clerical occupations. Journal of Applied Psychology, 1980, 65, 373-406.

Pervin, L. A., & Lewis, M. (Eds.) Perspectives in interactional psychology. New York: Plenum, 1978. a

Pervin, L. A., & Lewis, M. Overview of the internal-external issue. In, L. A. Pervin and M. Lewis (Eds.) Perspectives in interactional psychology. New York: Plenum, 1978. b

Pfeffer, J., & Salancik, G. The external control of organizations: A resource dependence perspective. New York: Harper & Row, 1978.

Porter, L. W., & Steers, R. M. Organizational, work and personal factors in employee turnover and absenteeism. Psychological Bulletin, 1973, 80, 151-176.

Price, J. L. The study of turnover. Ames: Iowa State University Press, 1977.

Pugh, D. Modern organization theory: A psychological and sociological study. Psychological Bulletin, 1966, 66, 235-251.

Rickards, T., & Freedman, B. L. Procedures for managers in idea-deficient situations: Examination of brainstorming approaches. Journal of Management Studies, 1978, 15, 43-55.

Schein, E. H. Career dynamics: Matching individual and organizational needs. Reading, MA: Addison-Wesley, 1978.

Schmidt, F. L., & Hunter, J. E. Development of a general solution to the problem of validity generalization. Journal of Applied Psychology, 1977, 62, 529-540.

Schmidt, F. L., Hunter, J. E., & Pearlman, K. Task differences as moderators of aptitude test validity in selection: A red herring. Journal of Applied Psychology, in press.

Schneider, B. Staffing organizations. Pacific Palisades, CA: Goodyear, 1976.

Schneider, B. Person-situation selection: A review of some ability-situation interaction research. Personnel Psychology, 1978, 31, 281-297.

Schneider, B. Work climates: An interactionist perspective. Unpublished manuscript, Michigan State University, 1980.

Steers, R. M. Organizational effectiveness: A behavioral view. Santa Monica, CA: Goodyear, 1977.

Super, D. E. A theory of vocational development. American Psychologist, 1953, 8, 185-190.

Taylor, H. C., & Russell, J. T. The relationship of validity coefficients to the practical effectiveness of tests in selection: Discussion of tables. Journal of Applied Psychology, 1939, 23, 565-578.

Terborg, J. R. Validation and extension of an individual differences model of work performance. Organizational Behavior and Human Performance, 1977, 18, 188-216.

Terborg, J. R. Why must we spell interaction with an "X"?: Some alternative views of person X situation interaction. Academy of Management Review, in press.

Thompson. J. D. Organizations in action. New York: McGraw-Hill, 1967.

Tom, V. R. The role of personality and organizational images in the recruiting process. Organizational Behavior and Human Performance, 1971, 6, 573-592.

Van Maanen, J. Breaking in: Socialization at work. In, R. Dubin (Ed.) Handbook of work, organization, and society. Chicago: Rand McNally, 1976.

Van Maanen, J., & Schein, E. H. Toward a theory of organizational socialization. In, B. Staw (Ed.), Research in organizational behavior, Vol. 1. Greenwich, CT: JAI Press, 1979.

Vroom, V. H. Organizational choice: A study of pre and post decision processes. Organizational Behavior and Human Performance, 1966, 1, 212-226.

Vroom, V. H. Work and motivation. New York: Wiley, 1964.

Wanous, J. P. Organizational entry: Recruitment, selection and socialization of newcomers. Reading, MA: Addison-Wesley, 1980.

Weick, K. E. The social psychology of organizing. Reading, MA: Addison-Wesley, 1969.

Weick, K. E. Educational organizations as loosely coupled systems. Administrative Science Quarterly, 1976, 21, 1-19.

Weick, K. E. The social psychology of organizing (2nd ed.). Reading, MA: Addison-Wesley, 1979.

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